Perfect TV game

B. Harvey

The circuit shown allows a player to play tennis or squash against a perfect opponent, which is useful if one wishes to practise and cannot find another player.

The circuit 'plays' tennis or squash simply following the ball up and down the screen, thus it is always in the right place in order to hit the ball.

Although the circuit appears simple, (it only uses one gate from one IC!) the way it works is quite complex, suffice to say that it relies upon the way the AY-3-8500 games chip determines bat position from the setting of the hand controls.

The only modifications to the TV game are: (i) One lead connected to the ball video output of the games chip.

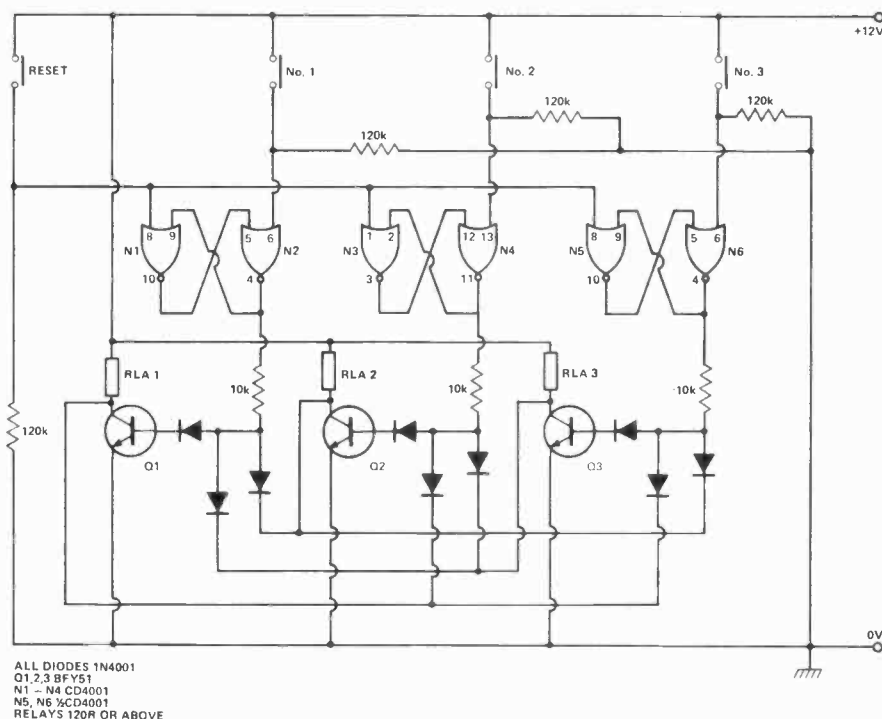
(ii) A switch wired in, selecting either a manual or an automatic player on the right hand bat.

(iii) This may not be necessary in home built games that use CMOS video mixers, but may have to be used in commercial units that sometimes use diode mixing circuits. The modification is shown and uses gates from the same IC. This will give a brighter bat and ball which is useful when playing squash.

Sequence Switch

B. Willis.

The circuit right was designed to enable three relays to be individually switched by their appropriate buttons but such that only one relay can be energised at any one time. When any one relay has been energised the corresponding collector falls to near zero volts, which is connected to the base of the remaining two transistors; now if another relay is attempted to be energised the base of it's transistor will remain bottomed and keep the relay off. The rest button must be pressed before another relay can be energised. DI ensures that each transistor is kept off until the voltage applied to the base exceeds 0.6 V.

The flip-flops and push buttons can of course be replaced with standard switches if momentary action is not required.

The circuit was used to control three radio transmitters where it was important that two should not be switched on at the same time. The circuit lends itself to further applications; for example, switching various inputs into an amplifier where it can replace the self-cancelling selector buttons.